

Case 3192

BULIMINIDAE Kobelt, 1880 (Mollusca, Gastropoda): proposed emendation of spelling to BULIMINUSIDAE, so removing the homonymy with BULIMINIDAE Jones, 1875 (Rhizopoda, Foraminifera); and ENIDAE Woodward, 1903 (1880) (Gastropoda): proposed precedence over BULIMINUSIDAE Kobelt, 1880

Bernhard Hausdorf

*Zoologisches Institut und Zoologisches Museum der Universität Hamburg,
Martin-Luther-King-Platz 3, D-20146 Hamburg, Germany
(e-mail: hausdorf@zoologie.uni-hamburg.de)*

Abstract. The family-group name BULIMINIDAE Kobelt, 1880 (Mollusca, Gastropoda) is a junior homonym of BULIMINIDAE Jones in Griffith & Henfrey, 1875 (Rhizopoda, Foraminifera). Both names are in use and refer, respectively, to a group of terrestrial snails with an Old World distribution, including both Palaeartic and Oriental taxa, and a cosmopolitan calcareous foraminiferan family found from the Cretaceous to Recent. It is proposed that the homonymy be removed by changing the spelling of the molluscan family-group name to give BULIMINUSIDAE by emending the stem of the name of the type genus *Buliminus* Beck, 1837, while leaving the foraminiferan name (based on *Bulimina* d'Orbigny, 1826) unchanged. It is also proposed that the molluscan family-group name ENIDAE Woodward, 1903 (based on *Ena* Turton, 1831, a senior subjective synonym of *Buliminus* Beck) be given precedence over BULIMINUSIDAE Kobelt, 1880. The names of *Ena* and of its type species, *Bulimus montanus* Draparnaud, 1801, were placed on Official Lists in Opinion 475 (July 1957).

Keywords. Nomenclature; taxonomy; Foraminifera; Gastropoda; *Bulimina*; *Buliminus*; *Ena*; BULIMINIDAE; BULIMINUSIDAE; ENIDAE.

1. Jones (in Griffith & Henfrey, 1875, p. 320) proposed the foraminiferan family-group name Buliminida, based on the type genus *Bulimina* d'Orbigny, 1826 (p. 269) which included 17 nominal species, among them *Bulimina marginata* d'Orbigny, 1826 (p. 269, pl. 12, figs. 10–12). Cushman (1911, p. 76) designated *B. marginata* as the type species of *Bulimina*. Under Articles 29.2 and 32.5.3 of the Code Buliminida is an incorrect original spelling which must be corrected to BULIMINIDAE. The well-known and well-used name BULIMINIDAE refers to a family of calcareous foraminiferans which are cosmopolitan, found at a variety of oceanic depths, and from the Cretaceous to Recent; a number of the included species are palaeoecological and biostratigraphic indicators which are useful in ocean drilling projects (see, for example, the recent publications by Loeblich & Tappan, 1964, p. 559; 1984, p. 43; 1987, p. 521; Mead, 1985, p. 228; Morkhoven, Berggren & Edwards, 1986; Haynes, 1990; Bolli, Beckmann & Saunders, 1994, pp. 136, 347; and Wyn Jones, 1994, p. 116).

2. Pfeiffer (1879, p. 282) introduced the molluscan family-group name *Buliminida*, based on the type genus *Bulimina* Ehrenberg, 1831 (p. [84]), the type species of which is *Bulimus labrosus* Olivier, 1804 (p. 30, pl. 31, figs. 10A and B) by monotypy. The family-group name is invalid, being based on a junior generic homonym (Article 39), but nevertheless it has been cited (as BULIMINIDAE) from Pfeiffer (1879) because his publication *Nomenclator Helicorum Viventium* is well known. The name BULIMINIDAE became available from Kobelt (1880) (see para. 3 below) but many authors were not aware of this because his *Illustriertes Conchylienbuch* is a rare work.

3. Kobelt (1880, p. 272) proposed the family-group name BULIMINIDAE, based on the type genus *Buliminus*. The name *Buliminus* was established by Beck (1837, p. 68) in the form '*Buliminus* (Ehrbg.) B.' and Beck cited *Bulimina* Ehrenberg in the synonymy. Thus, *Buliminus* is an emendation of *Bulimina* Ehrenberg, 1831 and has been adopted as a replacement for Ehrenberg's homonymous name. Under Article 67.8 the genus *Buliminus* Beck has the same type species as *Bulimina* Ehrenberg, 1831, namely *Bulimus labrosus* Olivier, 1804.

4. Woodward (1903, p. 309) replaced the name *Buliminus* Beck, 1837, which was in general usage at the time, by the senior subjective synonym *Ena* Turton, 1831 (p. 80), the type species of which is *Bulimus montanus* Draparnaud, 1801 (p. 65) by subsequent designation by Herrmannsen (1847, p. 421). Woodward believed *Buliminus* to be a junior homonym of *Bulimina* d'Orbigny, 1826 in the Foraminifera (para. 1 above) and that *Ena* was the oldest name available for the molluscan genus. The synonymy between *Ena* Turton and *Buliminus* Beck had been noted earlier, for example by Herrmannsen (1847, p. 421) and by Westerlund (1887, p. 22). Later, those names were used for separate taxa again (see, for example, Lindholm, 1925, p. 26; Thiele, 1931, p. 520 and Zilch, 1959, p. 183). The names of *Ena* and of its type species were placed on Official Lists in Opinion 475 (July 1957). Woodward (1903) also replaced the gastropod family-group name BULIMINIDAE Kobelt, 1880 with the new name ENIDAE Woodward, 1903. The family name ENIDAE was in prevailing usage for most of the last century and is still in use (see, for example, Emberton et al., 1990; Bank & Menkhorst, 1992; Gittenberger & Menkhorst, 1993; Manganelli et al., 1995; Schileyko, 1998). In these circumstances, under Article 40.2.1 of the Code ENIDAE takes precedence over BULIMINIDAE Kobelt, 1880 and is denoted as 'ENIDAE Woodward, 1903 (1880)'.

5. Schileyko (1978, 1984) revised the classification of the family ENIDAE Woodward and concluded that *Buliminus* Beck, 1837 and *Ena* Turton, 1831 belong to two different subfamilies, for which he used the names BULIMININAE Kobelt, 1880 and ENINAE Woodward, 1903, reinstating BULIMINIDAE Kobelt, 1880 for the family. Schileyko's restoration of Kobelt's name for the family was not in accord with Article 40a of the 1964 Code then in force because ENIDAE had become generally accepted. However, since that time the name BULIMINIDAE Kobelt, 1880 has been increasingly used as the name for the family (see, for example, Hausdorf, 1994, 1999; Alonso, Henríquez & Ibañez, 1995; Bank & Neubert, 1998). Although the classification of the family is still at issue, there is agreement that *Buliminus* and *Ena* are correctly placed in different subfamilies. Bank & Neubert (1998) and Schileyko (1998) included four to six genera in the subfamily BULIMININAE, for which no other name is available.

6. Schileyko (1998) tried to remove the homonymy between BULIMINIDAE Jones in Griffith & Henfrey, 1875 (Foraminifera) and BULIMINIDAE in Mollusca by proposing

a new gastropod name BULIMINUINAE based on *Buliminus* Beck, 1837. However, emendment by an individual scientist to the stem of a generic name on which is based an existing homonymous family-group name is not permitted under Article 55.3.1 of the Code. The name BULIMINUINAE is an unjustified emendation of BULIMINIDAE Kobelt, 1880 and has not been used by any other author.

7. In accord with Article 55.3 the case of homonymy between the gastropod family-group name BULIMINIDAE Kobelt, 1880 and the foraminiferan family-group name BULIMINIDAE Jones in Griffith & Henfrey, 1875 is referred to the Commission. I propose that the full generic name of *Buliminus* Beck, 1837 be used as the stem so that the gastropod family-group name based on it would become BULIMINUSIDAE Kobelt, 1880, thereby overcoming the homonymy. I think that it is preferable to use the entire generic name *Buliminus*- as the stem, rather than *Buliminu*- as proposed by Schileyko (1998), because it is usual to emend the stems of similar generic names in this way (see Recommendation 29A of the Code). The unusual emendment *Buliminu*-, resulting in BULIMINUIDAE and BULIMINUINAE Kobelt, 1880, might cause subsequent errors.

8. It is clear that Woodward (1903) replaced the name BULIMINIDAE Kobelt, 1880 by ENIDAE Woodward, 1903 because it was based on a generic name (*Buliminus* Beck, 1837) which he rejected as a supposed junior homonym and a junior synonym. I propose that the family-group name ENIDAE Woodward, 1903 (1880), which was in prevailing usage for most of the last century and is in continuing use, be conserved by giving it precedence over BULIMINIDAE Kobelt, 1880 (emended to BULIMINUSIDAE).

9. I have discussed this application with several colleagues who work on molluscs (R. Bank, P. Bouchet, G. Falkner, E. Gittenberger, F. Giusti and P. Mordan) and they have agreed with the proposals. I hope that the proposals now find general acceptance.

10. The International Commission on Zoological Nomenclature is accordingly asked:

- (1) to use its plenary power to rule that:
 - (a) for the purposes of Article 29 of the Code the stem of the generic name *Buliminus* Beck, 1837 (Gastropoda) is BULIMINUS-;
 - (b) the family-group name ENIDAE Woodward, 1903 (1880) and other family-group names based on *Ena* Turton, 1831 are to be given precedence over BULIMINUSIDAE Kobelt, 1880 and other family-group names based on *Buliminus* Beck, 1837 whenever their type genera are placed in the same family-group taxon (Gastropoda);
- (2) to place the following names on the Official List of Generic Names in Zoology:
 - (a) *Bulimina* d'Orbigny, 1826 (gender: feminine), type species by subsequent designation by Cushman (1911) *Bulimina marginata* d'Orbigny, 1826 (Foraminifera);
 - (b) *Buliminus* Beck, 1837 (gender: masculine), type species by monotypy of the replaced nominal genus *Bulimina* Ehrenberg, 1831, *Bulimus labrosus* Olivier, 1804 (Gastropoda);
- (3) to place the following names on the Official List of Specific Names in Zoology:
 - (a) *marginata* d'Orbigny, 1826, as published in the binomen *Bulimina marginata* (specific name of the type species of *Bulimina* d'Orbigny, 1826) (Foraminifera);

- (b) *labrosus* Olivier, 1804, as published in the binomen *Bulimus labrosus* (specific name of the type species of *Buliminus* Beck, 1837) (Gastropoda);
- (4) to place the following names on the Official List of Family-Group Names in Zoology:
- (a) BULIMINIDAE Jones in Griffith & Henfrey, 1875, type genus *Bulimina* d'Orbigny, 1826 (Foraminifera);
- (b) ENIDAE Woodward, 1903 (1880) (type genus *Ena* Turton, 1831) with the endorsement that it and other family-group names based on *Ena* are to be given precedence over BULIMINUSIDAE Kobelt, 1880 (type genus *Buliminus* Beck, 1837) and other family-group names based on *Buliminus* whenever their type genera are placed in the same family-group taxon (Gastropoda);
- (c) BULIMINUSIDAE Kobelt, 1880 (spelling emended by the ruling in (1)(a) above) (type genus *Buliminus* Beck, 1837) with the endorsement that it and other family-group names based on *Buliminus* are not to be given priority over ENIDAE Woodward, 1903 (1880) (type genus *Ena* Turton, 1831) and other family-group names based on *Ena* whenever their type genera are placed in the same family-group taxon (Gastropoda);
- (5) to place on the Official Index of Rejected and Invalid Generic Names in Zoology the name *Bulimina* Ehrenberg, 1831 (a junior homonym of *Bulimina* d'Orbigny, 1826) (Gastropoda);
- (6) to place the following names on the Official Index of Rejected and Invalid Family-Group Names in Zoology:
- (a) BULIMINIDAE Pfeiffer, 1879 (based on the junior generic homonym *Bulimina* Ehrenberg, 1831 and a junior homonym of BULIMINIDAE Jones in Griffith & Henfrey, 1875);
- (b) BULIMINIDAE Kobelt, 1880 (spelling emended to BULIMINUSIDAE in (1)(a) above) (Gastropoda);
- (c) BULIMINUINAE Schileyko, 1998 (an unjustified emendation and junior objective synonym of BULIMINUSIDAE Kobelt, 1880) (Gastropoda).

Acknowledgements

I am grateful to P. Bouchet and O. Kraus for valuable comments.

References

- Alonso, M.R., Henríquez, F. & Ibañez, M. 1995. Revision of the species group *Napaesus variatus* (Gastropoda, Pulmonata, Buliminidae) from the Canary Islands, with description of five new species. *Zoologica Scripta*, **24**(4): 303–320.
- Bank, R.A. & Menkhorst, H.P.M.G. 1992. Notizen zur Familie Enidae, 4. Revision der griechischen Arten der Gattungen *Ena*, *Zebrina*, *Napaopsis* und *Turanena* (Gastropoda Pulmonata: Pupilloidea). *Basteria*, **56**: 105–158.
- Bank, R.A. & Neubert, E. 1998. Notes on Buliminidae, 5. On the systematic position of Arabian Buliminidae (Gastropoda Pulmonata), with the description of a new genus. *Basteria*, **61**(4–6): 73–84.
- Beck, H.H. 1837. *Index Molluscorum praesentis aevi musei principis augustissimi Christiani Frederici*. Pp. 1–100. Hafniae.
- Bolli, H.M., Beckmann, J.-P. & Saunders, J.B. 1994. *Benthic foraminiferal biostratigraphy of the south Caribbean region*. xi, 408 pp. Cambridge University Press, Cambridge.
- Cushman, J.A. 1911. A monograph of the Foraminifera of the North Pacific Ocean. Part II. Textulariidae. *Bulletin of the United States National Museum*, **71**(2): 1–108.

- Draparnaud, J.P.R.** 1801. *Tableau des mollusques terrestres et fluviatiles de la France*. 116 pp. Renaud, Montpellier & Paris.
- Ehrenberg, C.G.** 1831. *Symbolae physicae seu icones et descriptiones animalium evertibratorum sepositis insectis, quae ex itineribus per Africanam Borealem et Asian Occidentalem...*, 1. Pars zoologica. Animalia Evertibrata. Animalia Mollusca. 46 pp., 2 pls. Mittler, Berlin.
- Emberton, K.C., Kuncio, G.S., Davis, G.M., Phillips, S.M., Monderewicz, K.M. & Guo, Y.H.** 1990. Comparison of Recent classifications of stylommatophoran land-snail families, and evaluation of large-Ribosomal-RNA sequencing for their phylogenetics. *Malacologia*, **31**(2): 327–352.
- Gittenberger, E. & Menkhorst, H.P.M.G.** 1993. Die türkischen Enidae: die Gattung *Turanena* Lindholm (Pulmonata: Pupillacea). *Archiv für Molluskenkunde*, **122**: 71–87.
- Hausdorf, B.** 1994. Additive typogenesis in *Thoanteus* (Gastropoda: Buliminidae). *Zoological Journal of the Linnean Society*, **112**(3): 353–361.
- Hausdorf, B.** 1999. A new genus of the Buliminidae from Turkey (Gastropoda: Stylommatophora). *Journal of Natural History*, **33**(1): 149–154.
- Haynes, J.R.** 1990. The classification of the Foraminifera — a review of historical and philosophical perspectives. *Palaeontology*, **33**(3): 503–528.
- Herrmannsen, A.N.** 1847. *Indicis generum malaco-zoorum primordia*, vol. 1, parts 3–6. Pp. 233–637. Fischer, Cassellis.
- Jones, R.** 1875. Foraminifera. Pp. 316–320 in Griffith, J.W. & Henfrey, A.. *The micrographic dictionary*, Ed. 3, vol. 1. xli, 845 pp. van Voorst, London.
- Kobelt, W.** 1880. *Illustriertes Conchylienbuch*, vol. 2. Pp. 145–392, pls. 51–112. Bauer & Raspe, Nürnberg.
- Lindholm, W.A.** 1925. Beitrag zur Systematik und Nomenklatur der Familie Enidae (Buliminidae). *Archiv für Molluskenkunde*, **57**: 23–41.
- Loeblich, A.R. & Tappan, H.** 1964. Sarcodina, chiefly 'Thecamoebians' and Foraminiferida. Pp. 511–900 in Moore, R.C. (Ed.), *Treatise on invertebrate paleontology*, part C. Protista, vol. 2, part 2. University of Kansas Press, Kansas.
- Loeblich, A.R. & Tappan, H.** 1984. Suprageneric classification of the Foraminiferida (Protozoa). *Micropaleontology*, **30**(1): 1–70.
- Loeblich, A.R. & Tappan, H.** 1987. *Foraminiferal genera and their classification*. x, 970, viii, 1059 pp. Von Nostrand Reinhold, New York.
- Manganelli, G., Bodon, M., Favilli, L. & Giusti, F.** 1995. Gastropoda Pulmonata. In: Minelli, A., Ruffo, S. & La Posta, S. (Eds), *Checklist delle specie della fauna italiana*, fasc. 16. 60 pp. Calderini, Bologna.
- Mead, G.A.** 1985. Recent benthic foraminifera in the Polar Front region of the southwest Atlantic. *Micropaleontology*, **31**(3): 221–248.
- Morkhoven, F.P.C.M., Berggren, W.A. & Edwards, A.S.** 1986. Cenozoic cosmopolitan deep-water benthic foraminifera. *Bulletin des Centres de Recherches Exploration-Production Elf-Aquitaine. Memoire*, **11**: 1–421.
- Olivier, G.A.** 1804. *Voyage dans l'Empire Othoman, l'Egypte et la Perse, fait par ordre du Gouvernement, pendant les six premières années de la République*, vol. 4. Atlas, livraison 2. vii pp., pl. 18–32. Agasse, Paris.
- Orbigny, A.D. d'.** 1826. Tableau méthodique de la classe des Céphalopodes. *Annales des Sciences Naturelles*, **7**: 245–314.
- Pfeiffer, L.** 1879. *Nomenclator Heliceorum viventium*. Pp. 1–384. Fischer, Cassellis.
- Schileyko, A.A.** 1978. Issledovanie tipovykh vidov nekotorykh taksonov rodovoy gruppy v semeystve Buliminidae (=Enidae) (Gastropoda). 3. Vidy Kryma i Kavkaza. Voprosy sistemy semeystva. *Zoologicheskij Zhurnal*, **57**(6): 834–850.
- Schileyko, A.A.** 1984. Nazemnye mollyuski podotryada Pupillina fauny SSSR (Gastropoda. Pulmonata, Geophila). In: *Fauna SSSR, Mollyuski*, vol. 3, part 3. 399 pp. Nauka, Leningrad.
- Schileyko, A.A.** 1998. Treatise on Recent terrestrial pulmonate molluscs. Part 2. *Ruthenica*, supplement 2: 129–261.
- Thiele, J.** 1931. *Handbuch der systematischen Weichtierkunde*, Band 1. Pp. 1–778. Fischer, Jena.

- Turton, W.** 1831. *A manual of the land and fresh-water shells of the British Islands*. viii, 150 pp., 10 pls. London.
- Westerlund, C.A.** 1887. *Fauna der in der Paläarktischen Region ... lebenden Binnenconchylien*, Teil 3 (Gen. *Buliminus*, *Sesteria*, *Pupa*, *Stenogyra* und *Cionella*). 183, 15, 26 pp. Friedländer, Berlin.
- Woodward, B.B.** 1903. Note on the generic name *Buliminus*. *Proceedings of the Malacological Society of London*, 5(5): 309–310.
- Wyn Jones, R.** 1994. *The Challenger Foraminifera*. 149 pp. Oxford Science Publications, Oxford University Press, Oxford; The Natural History Museum, London.
- Zilch, A.** 1959. *Handbuch der Paläozoologie*, Band 6 (Gastropoda), Teil 2 (Euthyneura), Lieferung 1. Pp.1–200. Borntraeger, Berlin.

Comments on this case are invited for publication (subject to editing) in the *Bulletin*; they should be sent to the Executive Secretary, I.C.Z.N., c/o The Natural History Museum, Cromwell Road, London SW7 5BD, U.K. (e-mail: iczn@nhm.ac.uk).